## AMENDMENTS TO THE CLAIMS:

This version of the claims will replace all prior versions and listing of claims in this application.

What is claimed is:

1. (Currently amended) A power line communications ("PLC") device having at least one of communications data transmission and reception capabilities comprises a physical communications protocol layer module adapted for operating in accordance with a plurality of communications signal transmission operating modes, wherein the physical layer module includes:

a module for performing ~~f~~Fourier transform operations, wherein the ~~f~~Fourier module is dynamically configurable to perform data processing operations in accordance with a selected communications signal transmission operating mode;

a selection module coupled to the ~~f~~Fourier transform module, wherein the selection module provides for selection of a communications operating mode for the PLC device from the plurality of communications transmission modes, wherein each of the modes corresponds to a transmission data structure defined in accordance with power line network operating characteristics and communication protocol requirements; and

a module for converting between parallel and serial symbol data coupled to the selection module, wherein the symbol data converting module processes a transmission data block for the power line network based on the operating mode selected by the selection module.

2. (Original) The PLC device of claim 1, wherein the selection module automatically selects the mode based on control data.

3. (Currently amended) The PLC device of claim 1, wherein the modes include at least one of a wavelet-~~like~~ filtered and a conventional OFDM-based communications operations modes, and wherein the at least one modes are operable on electric power lines having predetermined operating voltages and frequencies.

4. (Original) The PLC device of claim 1, wherein the selection module selects a mode based on data obtained from dynamic channel analysis of the power line network.

5. (Original) The PLC device of claim 1, wherein the selection module selects a mode based on data representative of communications profile requirements of the power line network.

6. (Currently amended) The PLC device of claim 1, wherein the selection module selects a mode based on data representative of a communications connection oriented profile. ~~an application profile.~~

7. (Original) The PLC device of claim 1, wherein the selection module selects a mode based on the size of a symbol corresponding to an identified communications connection oriented profile.

8. (Currently amended) The PLC device of claim 1, wherein a portion of at least one of the ~~f~~Fourier transform, selection and data converting modules is implemented using a system on a chip architecture.

9. (Original) The PLC device of claim 8, wherein the PLC device further includes at least one of a module for performing error correction, a module for performing data mapping, an equalization module and a module for converting between serial and parallel data, and wherein a portion of at least one of the error correction module, data mapping module, equalization module and data converting module is implemented using the system on a chip architecture.

10. (Currently amended) The PLC device of claim 1, wherein at least one of the ~~f~~Fourier transform, selection and data converting modules is implemented in software.

11. (Original) The PLC device of claim 1, wherein the PLC device further includes at least one of a module for performing error correction, a module for performing data mapping, an equalization module and a module for converting between serial and parallel data, and wherein the at least one module is configurable for performing data processing in accordance with the selected mode.

12. (New) A power line communications ("PLC") method for operating in accordance with a plurality of communications signal transmission operating modes for transmitting and/or receiving PLC signals, the method comprising:

selecting a power line communications signal transmission operating mode from the plurality of communications signal transmission operating modes, wherein each of the modes corresponds to a transmission data structure defined in accordance with power line network operating characteristics and communication protocol requirements;

performing Fourier transform operations in accordance with the selected communications signal transmission operating mode; and

converting between parallel and serial symbol data coupled to the selection module, comprising processing a transmission data block for the power line network based on the selected communications signal transmission operating mode.

13. (New) The PLC method of claim 12, wherein selecting a power line communications signal transmission operating mode comprises automatically selecting the mode based on control data.

14. (New) The PLC method of claim 12, wherein the communications signal transmission operating modes include at least one of a wavelet filtered and a conventional OFDM-based communications operations modes, and wherein the at least one modes are operable on electric power lines having predetermined operating voltages and frequencies.

15. (New) The PLC method of claim 12, wherein selecting a power line communications signal transmission operating mode comprises selecting the mode based on data obtained from dynamic channel analysis of the power line network.

16. (New) The PLC method of claim 12, wherein selecting a power line communications signal transmission operating mode comprises selecting the mode based on data representative of communications profile requirements of the power line network.

17. (New) The PLC method of claim 12, wherein selecting a power line communications signal transmission operating mode comprises selecting a mode based on data representative of a communications connection oriented profile.

18. (New) The PLC method of claim 12, wherein selecting a power line communications signal transmission operating mode comprises selecting the mode based on the size of a symbol corresponding to an identified communications connection oriented profile.

19. (New) The PLC method of claim 12, wherein a portion of at least one of the Fourier transform, selection and data converting is implemented using a system on a chip architecture.

20. (New) The PLC method of claim 19, further comprising performing at least one of error correction, data mapping, and converting between serial and parallel data using the system on a chip architecture.

21. (New) The PLC method of claim 12, wherein at least one of the Fourier transform, selection and data converting is implemented in software.

22. (New) The PLC method of claim 12, further comprising performing at least one of error correction, data mapping, and converting between serial and parallel data based on a configuration for data processing selected in accordance with the selected mode.